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**The Role of the International Development
Research Centre (IDRC) in
International Information Programs**

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1. INTRODUCTION

The purpose of this paper is to review the role of the International Development Research Centre (IDRC) in international information programs. In particular, the paper will focus on the role of the Information Sciences Division (ISD) and its program with a broad range of organizations, institutions, and countries to address the information needs of Third World countries.

2. INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

IDRC is a public corporation established by an act of the Canadian Parliament in 1970. Its mandate is "to initiate, encourage, support and conduct research into the problems of the developing regions of the world and into the means for applying and adapting scientific, technical and other knowledge to the economic and social advancement of those regions" (Revised Statutes of Canada, 1970). The Centre's international 21-member Board of Governors which includes six members from developing countries, ensures developing country input at the policy-making level. English, French and Spanish are the three working languages of the Centre. Its headquarters is in Ottawa with Regional Offices in Singapore (for Southeast and East Asia), New Delhi (for South Asia), Cairo (for the Middle East and North Africa), Dakar (for West and Central Africa), Nairobi (for Eastern and Southern Africa) and Bogota (for Latin America and the Caribbean).

IDRC was one of the first organizations to devote its resources primarily to supporting projects which are identified, designed, carried out, and managed by research personnel in developing countries and which meet the needs they, themselves, determine to be priorities (Sly, 1982). The mission of IDRC is "to contribute to development through research and research-supporting activities. The Centre aims to assist in promoting the indigenously determined social and economic advancement of the developing regions of the world, with particular focus on the problems of poverty" (IDRC Board of Governors, 1986). The Centre sees development as "a process for the benefit of people and should be consistent with human dignity, which is best fostered in conditions of adequate nutrition, sound health, independence of spirit, pride in indigenous culture and respect for human rights. Development decisions are investment decisions and have to be made by the people of the developing countries themselves and not by IDRC" (IDRC Board of Governors, 1986).

The activities of IDRC are carried out by four program divisions: Agriculture, Food and Nutrition Sciences; Health Sciences; Social Sciences; and Information Sciences. In conformity with the IDRC Statute, the first three divisions are concerned with research and the creation of new knowledge. The fourth, the Information Sciences Division is unique in that its establishment marked the first (and still the only) instance

whereby an aid organization has created a program division with the specific objective of supporting information projects in developing countries. The Information Sciences Division is fulfilling another component of the IDRC statute, that of bringing existing knowledge to where it can be used for development (Daneliuk, 1981).

3. INFORMATION SCIENCES DIVISION

Information can be viewed as a chain with each of the links representing the many elements or functions within the transfer process which enable decision-makers at every level to make timely, well-founded and accurate development policies (Stone, 1985). The program of the Information Sciences Division focuses on each one of the links by supporting projects that are concerned with "developing indigenous capacity to: identify and rank information needs; locate and select information sources; manipulate and process acquired information; and retrieve, repackage and disseminate information to a clearly defined target audience" (Stone, 1985).

The mission of the Information Sciences Division is "to contribute to the social and economic advancement of the developing regions by promoting effective use of information services to support the application and adaptation of scientific, technical, and other knowledge to the problems of development" (IDRC Information Sciences Division, 1986).

There are several information issues which the Division has identified in its latest program and policy review (IDRC Information Sciences Division, 1986). These issues include: the explosive growth in the volume and the potential value of scientific information; the rapid expansion of hardware and software options for handling this information; the growing realization of the importance of information as a resource for development (and a reusable one); the increasing recognition of the barriers to effective international flow of information; the importance of resource sharing and creation of networks to reduce duplication of effort; the lack of indigenous capacity and basic infrastructure to provide the necessary information systems and services; the impact of diverse multilateral and bilateral donor initiatives as well as commercial services in the information field.

Given this information environment, the principal objectives of the Division are as follows:

To improve access to and management of information relevant to development research and change, with special emphasis on problems of poverty, by:

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- (i) supporting the study of information needs and resources of various identifiable groups ("user communities") in developing countries, and the development of appropriate information systems, services, and tools;
 - (ii) building up the indigenous capacity of developing countries to manage and utilize information more effectively for their social and economic advancement; and
 - (iii) fostering cooperation and coordination in development research through systems for information exchange.

These principal objectives can be qualified further. The Division is primarily active in those subject areas that are acknowledged by IDRC's research divisions as being priorities for the developing countries. The Division also recognizes the various information needs of different user communities (clients). Although an over-simplification, users could be split into three target groups:

- (i) those needing information for research;
- (ii) those needing information for policy and planning decisions; and
- (iii) those needing information to implement change.

The latter category is by no means homogeneous, encompassing extension workers, community action groups, farmers, etc. To date, emphasis has been placed primarily on the needs for the research community, followed by the needs of the policy makers. However, it is expected that increased attention will be paid in future to supporting those information activities designed to have a more direct impact on the intended beneficiaries of the Centre's work. Other elements of the Division's program that will come under closer scrutiny in the present planning period include increased attention to the most effective channels or media for communicating information, further exploration of the potential applications of non-bibliographic types of information, development of an effective strategy for evaluating elements of the IS program, and ongoing study of the best use of project and service (i.e. within-Centre activity) modalities towards achieving the Division's objectives (IDRC, Information Sciences Division, 1986).

There are three main components to the Information Sciences Division:

- (i) the program area which consists of Science and Technology Information (STI), Socio-economic Information (SEI) and Information Tools and Methods (ITM);
- (ii) the IS Computer Systems; and
- (iii) the Centre Library.

4. SCIENCE AND TECHNOLOGY INFORMATION

The principal objectives of the Science and Technology Information program are:

- i) to assist in the establishment in developing regions of science and technology information services which:
 - a) meet the specialized information needs of specific research communities working on subjects of importance to developing regions;
 - b) are in fields related to the Centre's research programs, mainly in agriculture, industry and technology information (including energy), and marine/earth sciences from a natural resources perspective;
 - c) repackage and disseminate research information for decision-makers, researchers, and extension agents; and
 - d) have generally a multiplier effect, through a region for international mandate, through being a model or example for other information centres, or through participation in cooperative networks;
- ii) to support user needs, planning, implementation, and evaluation studies which may help developing countries to use their own and other donor funds for STI services most effectively; and
- iii) to support applied research in special cases in some program fields where the results are expected to have immediate impact and where the Division has special expertise (IDRC Information Sciences Division, 1986).

One of the highlights of the STI program has been the support it has given over the years to the Agricultural Information System (AGRIS) activities at the global, regional, and national levels. In AGRIS, an international co-operative information system, each participating country selects an institution to identify new agricultural documents (published and unpublished) within its territory. These are reported in a standard format to the United Nations Food and Agriculture Organization (FAO) which merges all contributions, constructs a data base and makes it available to participants on magnetic tape or in printed lists and indexes. IDRC's assistance has been given in the original design and conceptual framework of the system, helping countries participate directly with FAO, and establishing regional centres in Southeast Asia, Latin America and the Caribbean, which operate on behalf of several countries (Stone 1985).

Another aspect of the international information scene in which IDRC has played a leading role has been in the support of specialized information analysis centres (SIAC), in particular for important food crops and commodities. "SIAC are located in institutions that are centres of research excellence in the subject to be treated. Based upon close co-operation between scientists and information specialists, the centre can be responsive to individual needs by offering evaluated, selected, synthesized and repackaged information. IDRC has supported SIAC in cassava, tropical grain legumes, sorghum and millets, coconuts, buffaloes and small ruminants and tropical weeds (Stone, 1985).

In addition, the Science and Technology section is interested in developing and expanding its support for the industry and technology information programs, marine and earth sciences program and regional energy information networks and special information analysis centres concerning energy, particularly in the area of new and renewable sources of energy.

An excellent example of the type of support the Science and Technology section has given to non-bibliographic information activities has been its support over the years to TECHNOnet Asia which established a cooperative training program enabling industrial extension workers to exchange experiences and to help small enterprises become efficient and productive. Major improvements have been achieved in such areas as reduction of waste of raw materials or by enhanced product quality (Stone, 1985).

New initiatives within the earth and marine sciences area include geographical information systems (GIS) which describe geographically defined areas of the earth, both large and small surface areas and resource management and conservation information. Projects include coastal zone conservation and mangrove management in Southeast Asia and resource management of mountain zones in Nepal (Stone, 1985).

5. SOCIO-ECONOMIC INFORMATION

The second program section in the IS Division is that of Socio-economic information. Its principal objectives are:

- i) to develop the capacity of developing country institutions to provide information services in the substantive areas covered by the Social Sciences and Health Sciences Division;
- ii) to support activities through which information vital to the development process can be made available as expeditiously as possible to the primary target user groups: the policy-makers, planners, administrators, practitioners, and researchers at all levels; and

- iii) to support project activities which include:
- a) initiating and strengthening information systems and services implemented at regional, sub-regional, and national levels in developing countries and encouraging their increasing self-reliance;
 - b) coordinating existing services and encouraging information networking and sharing of information nationally, regionally, and internationally, in both South-South and North-South contexts;
 - c) repackaging and consolidating information;
 - d) introducing appropriate information technologies to support systems and services; and
 - e) training and education for educational activities in library and information science.

As indicated in Martha Stone's analysis of programs in this sector (Stone, 1985), the IS Division has shifted its emphasis from global information systems, which for many sectors are now fairly well established, to subregional and national information initiatives to help countries participate more fully and equitably in the large co-operative information networks.

The program of economic and development information has been built upon the premise that the most important information for decision-makers and planners is that produced within and for their territory. The ministries of planning, development banks and similar agencies and institutions are an important community to be served in the socio-economic development process. A significant amount of the Division's resources over the years have been allocated to the building of information systems geared to serve this community.

The conceptual framework for the Development Sciences Information System (DEVSIIS) was created in 1975. Since that time, several important regional and national initiatives have been undertaken. The division has supported the work of the UN Economic Commission for Latin America and the Caribbean in the design and implementation of a prototype DEVSIIS known as INFOPLAN. The coordinating point for this network is in Chile, and a dynamic subregional system is located in Trinidad and Tobago. Consistent with the emphasis on national information systems, support has been given recently to Brazil and Grenada to aid their participation in the regional network.

Assistance also has been given to the UN Economic Commission for Africa to create the Pan-African Documentation and Information System (PADIS). At the national level, support to Botswana, Togo and Guinée-Conakry will permit the creation of national documentation centres to strengthen linkages with the development, planning and research communities, and to identify and collect documents related to the countries' socio-economic development. With the establishment of national documentation centres, full participation is possible in PADIS, making available to each country regional socio-economic information required for planning (Stone, 1985).

Public administration and management is a relatively new area receiving the division's consideration. Support has been given to Latin America and Africa, and initiatives are being considered in Asia. Apart from the creation of data banks, activities are anticipated with civil service and training institutions, which provide the basic training for developing country planners and administrators, to introduce information management seminars and workshops into their regular programs (Stone, 1985).

Monetary issues and information about fiscal policy, taxation, foreign debt, trade and marketing are becoming increasingly important. The SEI sector recently began a project with the Commonwealth Secretariat regarding a software package to assist developing countries in recording and thereby managing their foreign debt.

Similarly, information on labour, co-operatives, trade unions, and vocational training programs is essential for a better understanding of the employment situation in the developing world (Stone, 1985). Interesting initiatives have begun in developing regional trade information systems in the Caribbean. As well, the division has supported a project to test the methodology of famine production in the Sudan. The goal of this project is to develop an inexpensive and effective package of indicators and procedures for the use of developing country governments in establishing an early warning famine prediction system.

Another area of SEI is the program of human environment, health and population information which concentrates on aspects of human health and settlements and their relation to the physical environment, particularly in the area of waste management and utilization.

In most developing countries, there is a dearth of information concerning occupational health problems because of the lack of diagnosis of diseases in the work-place and the absence of systematic reporting of recognizable occupational diseases. The establishment of a national information program and service in occupational health, with assistance from the Canadian Centre on Occupational Health, is being discussed with Thailand.

The thrust of the health program has been toward rural health and public health care delivery systems. Toward this end, the Division is interested in projects to establish information systems and services in traditional modes of medical treatment and delivery. Such projects recognize that in many developing countries use of "traditional healers" is widespread, particularly in rural areas where the formal health system, consisting of professional medical practitioners, is often physically or economically inaccessible and culturally unacceptable to a large percentage of the population (Stone, 1985).

As populations increase, massive migration of people and refugee movements place tremendous pressures on urban centres and already inadequate transportation systems. Therefore, in the field of population information, the Division has been instrumental in establishing a cooperative information system in Latin America (DOCPAL), which is managed by the Latin American Demographic Centre in Chile (Stone, 1985).

The last sector in SEI is information infrastructure and development in which the Division has supported the development of "model" or prototype national information system projects such as the National Information System of Jamaica or regional initiatives such as the Pacific Information Centre managed by the University of the South Pacific in Fiji.

SEI has been very active particularly in cooperating with Unesco in the area of library and information science curriculum development. Together, the two organizations are funding projects to establish regional graduate schools of information science in Nigeria (for West Africa) and Ethiopia (for East Africa). More recently, smaller cooperative initiatives have taken place with IDRC financial/technical input. Examples include the Regional Seminar on Curriculum Development for Information Science (Bangkok, September 1985), the Regional Experts Meeting for Asia and the Pacific on Information Needs for Sub-national Level Development Planning and... Appropriate Information Systems (India, December 1985), Library Resource Sharing in the SADCC Region (Dar-es-Salaam, December 1985) and the Asia Thesaurus Construction Workshop (New Delhi, December 1985).

6. INFORMATION TOOLS AND METHODS

The final program section, Information Tools and Methods has as its objectives:

- i) to increase the capacity of developing countries to acquire and use appropriate information technologies to deliver the information needed by researchers and planners to meet the development goals of their countries;

- ii) to help those who select, build, adapt, and use the tools, methods, techniques, and technologies make informed choices regarding the technologies they will use to provide information services in their countries; and
- iii) to support project activities which include:
 - information systems, networks, and services on specific subjects;
 - technology assessment, selection, and evaluation;
 - feasibility studies and technology demonstrations;
 - pilot projects and experiments;
 - technology adaptation and development;
 - education and training; and
 - documentation and exchange of experience.

The ITM sector is continuing its support for adaptation and development of computer software by the developing countries to meet their own specific needs as well as facilitating computer-based and satellite-based communications for providing access to and exchange of scientific data in support of developing-country researchers; assisting with general transfer of cartographic and remote sensing technologies, primarily for application to resource management; and developing program-related and project-related roles of microforms and other storage technologies as media for information exchange, storage, and retrieval in developing countries (IDRC, Information Sciences Division, 1986).

7. INFORMATION SCIENCES COMPUTER SYSTEMS GROUP

The focus of the IS Computer Systems Group is MINISIS, the microcomputer software package which they developed in 1976. MINISIS is used in over one hundred installations world-wide. The principal objectives of the Computer Systems Group are:

- i) to maintain, enhance, and support MINISIS and related software as tools to assist developing-country organizations in operating and maintaining information and data centres and facilities for research;
- ii) to provide advice and support to the ISD programs and projects which are using MINISIS and other related software tools;

- iii) to teach and transfer practical technical computer skills to developing country institutions in order to assist them in solving their information problems;
- iv) to facilitate cooperation between institutions by providing a method of exchanging information in machine-readable and printed form;
- v) to provide technical advice and assistance for developing or adapting MINISIS-like software tools that will permit developing country organizations to solve their information problems;
- vi) to strengthen the technical knowledge of developing country MINISIS installations to promote self-sufficiency for their MINISIS activities; and
- vii) to operate effectively the IS HP3000 computer for the benefit of various components of the IS program and other Centre activities in order to develop, maintain, and promote tools and techniques that will assist developing country data centre managers with the operation of their computers in a MINISIS environment.

In implementing these objectives the Computer Systems Group will be developing and supporting projects which build capacity in developing countries to apply and manage MINISIS-related software tools; initiating projects to identify, develop, and support national and regional MINISIS resource centres in developing countries; continuing to provide high quality support to new and existing developing country users of MINISIS without expanding the present level of resources; devising methods that will enable developing country MINISIS resource centres to become at least partially self-sufficient in a long-term provision of MINISIS support services; and strengthening the technical MINISIS knowledge of commercial distributors (IDRC, Information Sciences Division, 1986).

8. CENTRE LIBRARY

The third component of the Information Sciences Division is the Centre Library which has as its objective to stimulate and facilitate access to information about Third World development with particular emphasis on research in adapting scientific and technical knowledge to the economic and social advancement of developing countries.

To meet this objective, the Library:

- i) provides information and library service to the following groups:
 - a) IDRC staff in Canada and abroad;

- b) IDRC projects (in cooperation with Regional Offices where appropriate);
 - c) the Canadian community (governmental, academic, and voluntary) concerned with Third World development; and, as resources permit,
 - d) other communities concerned with Third World development (institutions in the developing countries, international organizations, and institutions in other developed countries);
- ii) provides advice and training to:
 - a) IDRC Regional Offices;
 - b) IDRC projects;
 - c) developing country institutions;
 - d) international organizations with responsibilities for establishing guidelines and standards; and
 - e) Canadian institutions engaged in international cooperative information programs and/or training of information specialists; and
- iii) acts as a test-bed for technological, methodological and bibliographical developments and standards that may be appropriate for adoption by the international community, IDRC projects, and developing countries.

The Centre Library plays a major role in providing access to development literature for Canadian researchers interested in Third World development. As part of its Development Data Bases Services, the Library makes available on-line free-of-charge to researchers accross Canada, IDRC's four in-house data bases:

BIBLIOL, the Library's data base of its holdings;

DEVSIIS, a data base of development literature primarily from Canada;

SALUS, a data base of literature on low-cost rural health; and

ACRONYM, a data base of acronyms pertaining to development.

In addition to these data bases, the Library makes available five other bibliographic data bases which it receives from FAO (Food and Agriculture Organization of the United Nations); ILO (International Labour Office); Unesco (**United Nations Educational, Scientific and Cultural Organization**); UNIDO (United Nations Industrial Development Organization); and USAID (Agency for International Development).

The Centre has supported and participated in the Inter-Agency Development Research Information System (IDRIS), a project information and research activity data base which is also available through the Centre Library. Members of IDRIS include IDRC, the Swedish Agency for Research Cooperation with Developing Countries (SAREC), the German Appropriate Technology Exchange (GATE), the International Foundation for Science (IFS), the U.S. Board on Science and Technology for International Development (BOSTID) and the Netherlands Universities Foundation for International Cooperation (NUFFIC).

As part of its testing function, the Centre Library has participated in international bibliographical activities such as the development of the Macrothesaurus for Information Processing in the Field of Economic and Social Development (Viet, 1985). Library staff, in cooperation with staff from the SEI sector of the Division have also contributed to the promotion of international standards by developing Recommended Methods for Development-Information Systems (Morin-Labatut and Sly, 1982).

The Library is increasingly augmenting its services to the Centre's Regional Offices and its projects. These services include the building of collections that emphasize the "grey literature" of each of the regions as well as ensuring a standard core collection is maintained in each office.

The Library regularly provides advice and training to project recipients from developing countries, whether on-site or in Ottawa.

CONCLUSION

The role of the Information Sciences Division of IDRC in international information programs is a major one with a broad range of activities and modalities for cooperating with people in international organizations and institutions as well as in regional and national ones. In all instances, IDRC views development as a process for the benefit of people of developing countries who can identify the problems, assess the risks and fix the priorities.